U.S. ARMY GARRISON MANNHEIM, GERMANY

HAZARDOUS WASTE MANAGEMENT PLAN (HWMP) FINAL

Prepared for:

U.S. Army Corps of Engineers
Europe District
Konrad-Adenauer-Ring 39
D-65187 Wiesbaden

Prepared by:

AMEC Earth & Environmental GmbH
Eschborner Landstrasse 42-50
D-60489 Frankfurt/Main

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APPROVALS

This Hazardous Waste Management Plan (HWMP) addresses management requirements specific to 293d Base Support Battalion (BSB) current and planned waste generation and disposal activities.

This HWMP satisfies the requirement to develop and maintain a hazardous waste management plan contained in Section C6.3.1.2.1 of Chapter 6, Hazardous Waste, of the Final Governing Standards (FGS) for Germany. This HWMP must be reviewed and updated at least once every five years.

Prepared By:

U. Martin — 14 Feb 2005

Ulrike Martin
AMEC Earth & Environmental GmbH

Date

Approved By:

22 JUL 05

Lt. Col. Melissa Sturgeon
Commanding Officer
293d BSB, Mannheim

Date

Approved By:

14/2/05

Larry Scavone
Director of Public Works
293d BSB, Mannheim

Date

Approved By:

14 Feb 2005

Sabine Fellhauer
Hazardous Waste Management Program Manager
Environmental Management Division
293d BSB, Mannheim

Date

USAG Mannheim HAZARDOUS WASTE MANAGEMENT PLAN

RECORD OF REVISIONS

This HWMP must be reviewed and updated at least once every five years in accordance with FGS Chapter 6, Section C6.3.1.2.1.1 (Hazardous Waste). To fulfill this requirement, the following table is provided for tracking revisions to this plan.

Revision No.	Date	Name and Title	Signature	Changes	Pages Affected
1	22-Jul-05	Ulrike Martin, Env. Eng.		Update of Inspection Checklist	A5-1 till A5-4
2	25-Oct-05	Ulrike Martin, Env. Eng.		Change from 293d BSB into USAG Mannheim	Whole document
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AAFES	Army and Air Force Exchange Service
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AST	Aboveground Storage Tank
AVV	Ordinance on the European Waste Catalogue (*Verordnung über das Europäische Abfallverzeichnis (Abfallverzeichnisverordnung))*
BMO	Battalion Maintenance Office
CSF	Consolidated Storage Facility
CSG	Customer Service Group
DIN	German Institute for Standardization *(Deutsches Institut für Normung)*
DoD	Department of Defense
DPW	Directorate of Public Works
DRMO	Defense Reutilization and Marketing Office
DRMSI	Defense Reutilization and Marketing Service International
DSN	Defense Switched Network
DYNCORP	DynCorp Technical Services
ECO	Environmental Compliance Officer
EMD	Environmental Management Division
EWC	European Waste Catalogue
FGS	Final Governing Standards
FY	Fiscal Year
HIM GmbH	*Hessische Industriemüll GmbH*
HM	Hazardous Material(s)
HW	Hazardous Waste(s)
HWAP	Hazardous Waste Accumulation Point
HWMP	Hazardous Waste Management Plan
HWPS	Hazardous Waste Profile Sheet(s)
HWSA	Hazardous Waste Storage Area
MLC	Mannheim Laboratory Center
MSDS	Material Safety Data Sheet
N/A	Not Applicable
O&M	Operation and Maintenance Division
POC	Point of contact

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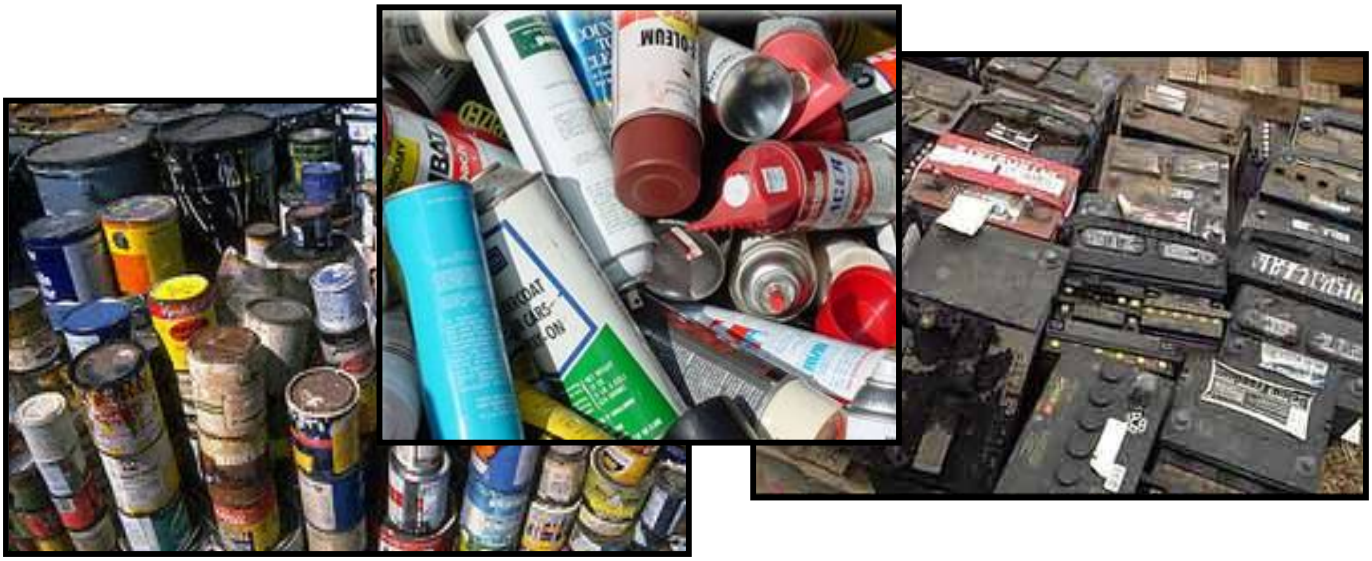
HAZARDOUS WASTE MANAGEMENT PLAN

FACT SHEET

The Hazardous Waste Management Plan (HWMP) is designed to outline policies and procedures for proper handling, storage, and disposal of hazardous waste.

Common types of HW found on a USAG include waste oil, POL contaminated solids (e.g. oily absorbent, oil filters, empty metal and plastic cans), paint and paint related material, used anti-freeze, used solvents, spray cans, grease, used batteries and battery acid, photo chemicals and pesticides.

Issues central to development of the HWMP are identified below and on the following page.



RECORDS

HW records must be retained as follows:

Inspection Logs:	**3 yrs**
Turn-in Documents:	**3 yrs**
HW Log:	**Until closure**
HW Proof Log:	**3 yrs fm last entry**
Training Records:	**3 yrs fm termination**

TRAINING

All personnel involved in HW handling, storage, and disposal must receive training <u>before</u> assuming work duties involving HW exposure, and <u>annually</u> thereafter. Verbal operating instructions are given to all employees prior to initiating work with HW.

HAZARDOUS WASTE ACCUMULATION POINTS (HWAPs)

HWAPs are temporary HW accumulation areas at or near the point of generation and under the control of the operator. When full, a container can only be stored at the HWAP for 5 days. After that, it must be moved to a Hazardous Waste Storage Area (HWSA) or transported for treatment or disposal.

HAZARDOUS WASTE STORAGE AREAS (HWSAs)

HWSAs are used for HW collection and storage prior to shipment for treatment/disposal. HW can be collected at the HWSA for up to 1 year. HWSAs may not be sited in Water Protection Zones I or II, and areas subject to spills must be inspected daily when in use. Closure Plans must be prepared for new and existing HWSAs.

1 INTRODUCTION

This Hazardous Waste Management Plan (HWMP) has been developed for the USAG Mannheim current and planned hazardous waste (HW) generation and disposal activities. The Environmental Management Division (EMD) for the USAG Mannheim is responsible for development, maintenance, and implementation of this HWMP.

The purpose of a HWMP is to outline policies and procedures for proper handling, storage, and disposal of HW. This HWMP satisfies the requirement to develop and maintain a Waste Management Plan and a Waste Registry, per Section C6.3.1.2 of the Final Governing Standards (FGS) for Germany. Chapter 6 of the FGS contains cross-references to Chapter 5, Hazardous Materials, and Chapter 7, Solid Waste.

The HWMP should be used in combination with a USAG-specific Solid Waste Management Plan for effective overall management of waste generated by the USAG. The USAG Mannheim's Solid Waste Management Plan is available in the EMD.

Throughout this HWMP, all subsequent citations from the FGS for Germany are simply referred to as the "FGS." In addition, it should be noted that the nomenclature for FGS section numbers includes a reference to both the FGS chapter and paragraph (e.g., FGS Section C6.2.2 refers to FGS Chapter 6, Paragraph 6.2.2).

Table 1-1. HWMP Regulatory Cross Reference Matrix

Hazardous Waste Management Plan			
German FGS Section	**Description**	**Applicable Section of HWMP**	**Remarks**
C6.3.1.1	HW Determination and Characterization	7.3	
C6.3.1.2	Waste Management Plan and Waste Registry	8	
C6.3.1.3	Identification Numbering	7.2	
C6.3.1.4	Transportation	5	
C6.3.1.5	Disposal Documentation	7.4 / 7.5	
C6.3.1.6	Audit Trail	7.4.1	
C6.3.1.7	Waste Identification Number	7.3	
C6.3.1.8	Hazardous Waste Profile Sheet (HWPS)	7.3	
C6.3.2.1	Design of Hazardous Waste Accumulation Points (HWAPs)	3.2	
C6.3.2.2	Storage Limitations for HWAPs	3.2	
C6.3.2.3	Management of Containers at HWAPs	3.1	
C6.3.2.4	Recordkeeping Requirements for HWAPs	7.1 / 7.4 / 7.5	
C6.3.2.5	Personnel Training for Managing HWAPs	4	
C6.3.3	Hazardous Waste Storage Areas (HWSA) – Technical Requirements	3.3	
C6.3.3.1	Duration of Waste Storage in HWSAs	3.3.1	
C6.3.3.2	Waste Analysis and Verification in HWSAs	N/A	
C6.3.3.3	Security in HWSAs	3.3.1	
C6.3.3.4	Communications and Alarm System Serving HWSAs	3.3.3	
C6.3.3.5	Required Equipment in HWSAs	3.3.3	

Table 1-1. HWMP Regulatory Cross Reference Matrix

(*continued*)

Hazardous Waste Management Plan			
German FGS Section	**Description**	**Applicable Section of HWMP**	**Remarks**
C6.3.3.6	General Inspection Requirements	3.5	
C6.3.3.7	Storage Practices in HWSAs	3.1 / 3.3.1	
C6.3.3.8	Closure and Closure Plans for HWSAs	3.3.4	
C6.3.4.1	Container Handling and Storage	3.1	
C6.3.4.2	Rainwater Captured in Secondary Containment – Inspection and Testing Requirements	3.3.1	
C6.3.4.3	Special Requirements for Ignitable or Reactive Waste	3.1	
C6.3.4.4	Special Requirements for Incompatible Wastes	3.1	
C6.3.5.1	Recordkeeping – Internal Turn-in Documents	7.4.1	
C6.3.5.2	Recordkeeping – Hazardous Waste Log	7.1	
C6.3.5.3	Recordkeeping – Availability of Hazardous Waste Log	7.1	
C6.3.5.4	Recordkeeping – Inspection Logs	3.5 / 7.5	
C6.3.5.5	Recordkeeping – Manifests	7.5	
C6.3.5.6	Recordkeeping – Responsibility for Maintenance of Records	7.5	
C6.3.6	Contingency Plan	9	
C6.3.7.1	Inspection of Tank Systems	3.4 / 3.5	
C6.3.7.2	Response to Leaks or Spills and Disposition of Leaking or Unfit-For-Use Tank Systems	3.4	
C6.3.7.3	Spill Notification Procedures	3.4	

Table 1-1. HWMP Regulatory Cross Reference Matrix

(*continued*)

Hazardous Waste Management Plan			
German FGS Section	**Description**	**Applicable Section of HWMP**	**Remarks**
C6.3.7.4	Closure of Tanks Systems	3.4.1	
C6.3.8	Management of Used Oil and Batteries	3.6	
C6.3.9	HW Training	4	
C6.3.10	Technical Requirements for HW Disposal	6	
C6.3.11	Individual State Requirements for Tendering of Waste Requiring Special Supervision	6.2	
C6.3.12	Additional Requirements for the Transport of HW on Public Roads	5	
C6.3.13	Permitted Transportation and Disposal Companies	5	
C6.3.14	Appointment and Responsibilities of Waste Management Officer	2.1 / 2.4	
C6.3.15	Appointment and Responsibilities of Responsible Individuals	2.2 / 2.3 / 2.4	
C6.3.16	Provision of Statistical Information for Disposal facilities at the USAG	N/A	
C6.3.17	Daily Removal of HW to HWAP	3.2	

2 KEY PERSONNEL

This section details the USAG's key personnel with regard to HW management. Table 2-2 in Section 2.4 provides contact information for key personnel.

2.1 WASTE MANAGEMENT OFFICER *(BETRIEBSBEAUFTRAGTER FÜR ABFALL)*

A Waste Management Officer must be assigned if specific activities as indicated in Table 2-1 occur at the USAG. Table 2-1 identifies the activities performed at the USAG:

Table 2-1. HW Activities

HW Activity	Yes	No
HW storage facility	**X**	
HW disposal facility		**X**
Landfill		**X**
Incinerator		**X**
Hospital and/or clinic	**X**	
Plant for chemical or physical treatment of HW with a throughput of more than 0.5 metric tons (500 kg) per hour		**X**

Due to the activities performed within the USAG, the USAG Mannheim has appointed a Waste Management Officer *(Betriebsbeauftragter für Abfall)*. The Waste Management Officer's responsibilities are described in FGS Section C7.3.19.3. Contact information for this individual is provided in Section 2.4, Table 2-2.

2.2 DANGEROUS GOODS ADVISOR *(GEFAHRGUTBEAUFTRAGTER)*

This section is not applicable to the USAG Mannheim because off-post transportation of HW that are considered dangerous goods is not performed by USAG personnel.

2.3 RESPONSIBLE INDIVIDUALS *(BEAUFTRAGTE PERSONEN)*

Transportation of HW that are considered dangerous goods is performed by the disposal contractor *Süd-Müll GmbH + CO.KG für Abfalltransporte und Sonderabfallbeseitigung* (SMT). Contact information for the responsible point of contact (POC) from SMT is provided in Table 2-2.

2.4 LISTING OF KEY PERSONNEL

The USAG Mannheim's key personnel are listed in Table 2-2 (see next page). The contact information contained herein is updated, as appropriate, to reflect modifications in the USAG's operations.

Table 2-2. Key USAG Personnel

Position/ Task	Unit/ Activity	Name	Telephone Number	E-mail Address
General Responsibility for HW management	Directorate of Public Works (DPW) EMD	Sabine Fellhauer	Defense Switched Network (DSN) 381-8447 Civilian 0621-730-8447 Mobile 0175-7241557	sabine.fellhauer@cmtymail.26asg.army.mil
Maintenance of Waste Registry and HWMP				
Update of HWPS				
Maintenance of training records				
Responsible individual for coordinating HW training				
Maintenance of Disposal Records	DRMO – CSF (1) DPW EMD	Elisabeth Pouncey Sabine Fellhauer	DSN 382-4632 Civilian 0621-779-4632 DSN 381-8447 Civilian 0621-730-8447 Mobile 0175-7241557	elisabeth.pouncey@dla.mil sabine.fellhauer@cmtymail.26asg.army.mil
Maintenance of training records	Environmental Compliance Officers (ECOs) at military units or facilities (see Table A-2.1 in Appendix 2)			
Waste Management Officer	DPW EMD	Wolfgang Ziegler	DSN 381-7029 Civilian 0621-730-7029 Mobile 0175-7241582	wolfgang.ziegler@cmtymail.26asg.army.mil
Contractor for disposal and transportation of HW	SMT	Mr. Hallmann	Civilian 06233-770133	a.hallmann@sued-muell.com
Maintenance of HW logs	*Currently provided by:* SMT	Claudia Dohm	Mobile 0170-8998927	c.dohm@sued-muell.com

Notes:

(1) Defense Reutilization and Marketing Office (DRMO) – Coleman Consolidated storage facility (CSF)

3 STORAGE AND ACCUMULATION

The USAG Mannheim operates 32 HWAPs and one HWSA that is currently not used to store HW. EMD personnel are primarily responsible for the setup and maintenance of the HWAPs and the HWSA, although individual ECOs have been assigned responsibility for assisting in the HW handling. Appendix 1 contains maps that indicate where HWAPs and the HWSA are located throughout the USAG. Appendix 2 contains a list of the HWAPs and the HWSA located throughout the USAG, as well as the associated ECO for each one. The following pages detail the HW management and accumulation and storage operations at the USAG.

3.1 CONTAINERS

Container requirements apply to both the general storage practices and container labeling. The following container requirements are followed at the USAG Mannheim.

- Containers used to collect hazardous wastes at HWAPs are approved in accordance with The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). (FGS Sections C6.3.2 and C6.3.3)
- Containers are kept in the closed position at all times, unless adding or removing waste. (FGS Section C6.3.4.1.1.1)
- Containers are accumulated and handled in a manner that prevents rupturing or leaking. (FGS Section C6.3.4.1.1.2)
- Containers used for accumulation of flammable liquids are grounded during the transfer from one container into another. (FGS Section C6.3.4.1.1.3)
- Hazardous waste containers are labeled with the waste classification number according to the European Waste Catalogue. (FGS Section C6.3.4.2.1.1)
- Containers are labeled with the appropriate hazard symbol *(Gefahrensymbol)* and hazard definition *(Gefahrenbezeichnung).* (FGS Sections C6.3.4.2.1.1 and C5.3.7.1.1)
- Container labels include the required R and S Phrases as appropriate. (FGS Sections C6.3.4.2.1.1 and C5.3.7.1.1)
- All container labels meet the minimum size requirements as specified in Table 3-1. The hazard symbol must measure at least one tenth of the entire label and have an area of at least 1 square centimeter. (FGS Sections C6.3.4.2.1.1 and C5.3.7.1.4)

Table 3-1. Recommended Container Label Sizes

Container/Package Volume (in liters)	Recommended Label Size (in millimeters)
<3	52 x 74
3-50	74 x 105
50-500	105 x 148
>500	148 x 210

- Packing of hazardous wastes is clearly labeled, not to be mistaken for foodstuffs or beverages, with the associated risks clearly recognizable. (FGS Section C6.3.4.1.2.1.3)
- Containers used to accumulate ignitable or reactive wastes are stored in a HWAP that is at least 15 meters inside the installation's boundary. (FGS Section C6.3.4.3)
- Incompatible wastes (see Appendix 6 for guidelines) are stored in segregated containers and do not share secondary containment structures. Where necessary, incompatible wastes are physically separated using berms, dikes, walls, or other similar means. (FGS Sections C6.3.4.4.1 and C6.3.4.4.3)
- Hazardous wastes are not placed in an unwashed container that previously held incompatible wastes. (FGS Section C6.3.4.4.2)

3.2 HWAP

A HWAP is defined as a location where HW are accumulated until they are transported for treatment or disposal. The accumulation in a HWAP is limited to only one container per waste stream. There are no specific size limitations for the individual containers, but the containers must meet ADR requirements (i.e., containers must be ADR approved.) A HWAP is usually located at or near the point of generation and under the control of the operator.

Locations of USAG Mannheim HWAPs are indicated in the map presented in Appendix 1. HWAPs as listed in Appendix 2 are operated in accordance with the following standards:

- A single container is provided for the collection of each waste stream. Chemically incompatible wastes are appropriately segregated. This includes that sufficient room is left in containers storing liquid for the contents to have room to expand with increases in temperature. (FGS Section C6.3.2.1)
- Hazard signs appropriate for each type of waste are posted at each HWAP. (FGS Sections C6.3.2.1, C5.3.7.3, and C5.A4)
- Full containers are picked up by the contractor within five working days. (FGS Section C6.3.2.2)

- Turn-in documents are submitted to the appropriate authorities (DPW EMD and DRMO Coleman CSF) to arrange the removal from the HWAP. (FGS Section C6.3.2.2)
- Turn-in documents, Hazardous Waste Logs, and hazardous waste manifests are maintained. (FGS Sections C6.3.2.4 and C6.3.5)
- Small amounts of hazardous waste that are generated daily are collected at the point of generation (i.e., in the shop bays) and are moved to or emptied into larger containers daily, at a designated HWAP.
- In addition, all containers in HWAPs are handled in accordance with the provisions stated in Section 3.1.

3.3 HWSA

3.3.1 General Requirements

There is one HWSA located at the USAG Mannheim operated by DRMO that is currently not used to collect and store HW. However, it should be noted that it is used for the storage of Hazardous Material (HM). The location of the HWSA is indicated on the maps presented in Appendix 1. The HWSA is listed in Appendix 2, Table A-2.1. Requirements for the operation of HWSAs in general are listed in the following.

A HWSA is defined as one or more locations on a DoD installation where hazardous waste is collected and stored prior to shipment for treatment or disposal. HWSAs are operated to prevent contamination of water bodies or other detrimental effects. More than one ADR-approved container per waste stream may be accumulated at a HWSA.

A construction approval or test of suitability (Bauartzulassung oder Eignungsfeststellung) from the German authorities may be required for HWSAs. This is dependent upon whether the facility can be classified as “ordinary and conventional construction type” or not. The classification varies by State based on Water Hazard Category (Gefährdungsstufe) and quality of secondary containment. See Appendix 3 for details on which type of facilities in each State would require approval, and to obtain more information on secondary containment requirements.

HWSAs are operated in accordance with the following standards:

- Waste is not stored for more than one year in a HWSA. For that purpose, Hazardous Waste Logs are regularly checked for each HWSA to ensure that no waste is stored longer than 12 months. (FGS Section C6.3.3.1)
- Aisles in the HWSAs are a minimum of one meter in width. (FGS Section C5.3.2.1)
- HWSAs, in which material-handling equipment is used, have aisles that are at least three meters in width or one meter wider than the largest piece of material handling equipment used, whichever is greater. (FGS Section C5.3.2.1)
- No known sources of ignition are located or allowed in any HWSA. (FGS Section C6.3.3.7.1)

- "No Smoking" *(Rauchen verboten)* signs are posted in both English and German at HWSAs that are used for storage of flammable substances. The signs are clearly visible and legible. (FGS Section C6.3.3.7.1)
- Hazardous Waste Logs are maintained at the HWSA. (FGS Section C6.3.5.2)
- HWSAs that are used for storage of water endangering substances are not located in areas that are Water Protection Zones *(Wasserschutzgebiete)* I or II. (FGS Section C5.3.14.1.2.1.1)
- HWSAs that are classified as a Water Hazard Category *(Gefährdungsstufe)* D facility are not located in areas that are classified as Water Protection Zone III. (FGS Section C5.3.14.1.2.1.2)
- Secondary containment is provided for HWSAs that are classified as Water Hazard Category A, B, or C facilities and located in areas classified as Water Protection Zone III. The secondary containment is designed to retain the volume of the largest container or 10 percent of the total storage volume, whichever is greater. (FGS Section C5.3.14.1.2.1.2)
- Rainwater captured in secondary containment areas are inspected visually prior to release. If this inspection indicates a potential for contamination or if the nature of the hazardous waste stored is such that this inspection is not acceptable, the potentially contaminated water is submitted for laboratory testing prior to release. (FGS Section C6.3.4.2)
- HWSAs are not located in areas prone to flooding, unless it is unavoidable to locate the HWSA in such an area. If so, measures are taken to prevent contamination of water. The HWSA is secured against floating and shifting, and the area is designed such that water cannot enter vent pipes, filling ports or other inlets in the event of flooding. Additionally, the HWSA is resistant to mechanical damage from flooding. (FGS Section C5.3.14.1.2.1.3)
- In addition, all containers in HWSAs are handled in accordance with the provisions stated in Section 3.1.

3.3.2 Waste Transfer

This section is not applicable to the USAG Mannheim since all waste is picked up directly from the points of generation and is not being transferred from the HWAPs to the HWSA.

3.3.3 Security Systems

Security measures in place at the USAG Mannheim's HWSA to prevent unauthorized entry are identified in **Fehler! Verweisquelle konnte nicht gefunden werden.**.

Table 3-2. Security Systems at the USAG Mannheim HWSA

ARLOC	Facility No.	Description of Security System
GE52F	121	The HWSA is fenced and locked at all times and can only be opened by HWSA personnel.

HWSAs must be operated in accordance with the standards identified below.

- Signs must be posted in English and German with the words, "Danger Unauthorized Personnel Keep Out" *("Gefahr. Zutritt für Unbefugte verboten.")* at HWSAs. The signs should be visible from at least 7.5 meters and from every direction of approach to the HWSA (FGS for Germany, Chapter 6, C6.3.3.3.2).

- HWSAs must be equipped with an internal alarm system that is able to provide immediate emergency instructions either by voice or by signal to HWSA personnel. These systems should be immediately accessible to personnel actively involved in handling (e.g., pouring or mixing) of waste at HWSAs (FGS for Germany, Chapter 6, C6.3.3.4.1).

- HWSAs must be equipped with a means of summoning emergency personnel. This can be accomplished by the installation of either an intrinsically safe telephone or a hand-held two-way radio (FGS for Germany, Chapter 6, C6.3.3.4.2).

3.3.4 Closure

A closure plan has been prepared for the existing HWSA and is presented in Appendix 4. Additional closure plans for new HWSAs will be prepared during the HWSA planning stages including estimates of the storage capacity of hazardous waste containers, steps to be taken to remove or decontaminate all waste residue, and an estimate of the expected closure date.

HWSAs are closed in accordance with the closure plan for the specific site. HWSAs are inspected by an expert *(Sachverständiger)* prior to their closure. All hazardous waste and hazardous waste residues from the containment system are removed. This includes removing any remaining containers, liners, and bases. The closure is performed in a manner, which minimizes and/or eliminates the need for future maintenance or the potential for future releases of hazardous waste.

3.4 TANK SYSTEMS

The following tank-specific actions are being or have been performed, according to the regulatory requirements and as appropriate for the substance stored in the tank and the German State in which the tank resides. Sections 1 and 2 in Appendix 3 detail the special requirements of individual States.

- Tank specifications, such as size, contents, and construction type, are clearly indicated on each aboveground storage tank (AST). (FGS Section C5.3.15.3.2.1.3)

- ASTs and tank farms storing flammable liquids outdoors are notified *(Anzeigepflicht)* to the competent German authorities as identified in the FGS Section C5.3.15.2.1, if warranted.
- All indoor storage areas containing storage tanks that require notification or a permit (see above) are equipped with ventilation and lighting. (FGS Section C5.3.15.3.2.2)
- For ASTs, the fill level is visible at all times from the exterior of the tank in tanks and tank containers (i.e. a container that may be used for storage and transportation and has a minimum volume of 450 liters). (FGS Section C5.3.15.3.2.1.2)
- Tank inspections are performed once each operating day, and include a review of operating systems, structural items, and nearby areas for releases. (FGS Section C6.3.7.1) Internal and external notifications of spills will be made in accordance with the USAG Mannheim Spill Prevention and Response Plan. (FGS Section C6.3.7.3)
- Pressure monitoring is performed for all tanks with an internal positive pressure exceeding 0.1 bar. (FGS Section C5.3.15.3.2.1.4)
- Secondary containment is provided for aboveground Petroleum, Oil, and Lubricants (POL) storage tanks, as appropriate. (FGS Sections C5.3.14.1.1.3 and C9.3.9)
- "No Smoking" signs are posted in both English and German for any tank system that is used for storage of flammable substances. The signs are clearly visible and legible. (FGS Section C6.3.3.7.1)
- Tank systems that are used for storage of water endangering substances are not located in areas that are Water Protection Zones *(Wasserschutzgebiete)* I or II. (FGS Section C5.3.14.1.2.1.1)
- Tank systems that are classified as a Water Hazard Category *(Gefährdungsstufe)* D facility are not located in areas designated as Water Protection Zone III. (FGS Section C5.3.14.1.2.1.2)
- Secondary containment is provided for tank systems that are classified as Water Hazard Category A, B, or C facilities and located in areas classified as Water Protection Zone III. The secondary containment is designed to retain the complete volume of the tank system. (FGS Section C5.3.14.1.2.1.2)
- Tank systems storing HW are not located in areas prone to flooding, unless it is unavoidable to locate the tank system in such an area. If so, measures are taken to prevent contamination of water. The tank system is secured against floating and shifting, and it is designed such that water cannot enter. Additionally, the tank system is resistant to mechanical damage from flooding. (FGS Section C5.3.14.1.2.1.3)

3.4.1 Closure of Tank Systems

At closure of a tank system, storage tanks are emptied and cleaned by a certified company *(Fachbetrieb)* prior to its inspection by a certified expert *(zugelassener Sachverständiger)*. HW residues, contaminated containment system components (liners, etc.), and contaminated soils are disposed of to the extent practicable.

3.5 INSPECTIONS

All tank systems or HWSAs that store water endangering substances are inspected by an expert *(Sachverständiger)* prior to their initial use and every five years thereafter. (FGS Section C5.3.14.2.1) Additionally, expert inspections will be conducted under the following conditions:

- When significant modifications are made (FGS Section C5.3.14.2.1.1);
- If the competent German authority issues an inspection request due to a suspected threat to water bodies (FGS Section C5.3.14.2.1.2);
- After decommissioning a facility (FGS Section C5.3.14.2.1.2); and
- After the re-commissioning or re-opening of a facility that has been closed for more than one year (FGS Section C5.3.14.2.1.2).

Problems identified by the inspections are addressed as appropriate. Problems that are imminently dangerous to human health and the environment (such as leaking containers) are remedied immediately. Refer to the USAG's Spill Prevention and Response Plan to identify areas that are prone to spills, such as loading and unloading areas.

Inspections of HWAPs at the USAG Mannheim are performed on a weekly basis by the HW contractor SMT and on a semiannual basis by the EMD. Underground storage tanks (USTs) are inspected daily by the ECOs for leaks and fill levels. In addition, tanks and tank systems are inspected annually through a maintenance contract with DPW Operations and Maintenance (O&M) Division. Records of the facility inspections performed by the EMD and by SMT are maintained for at least three years at the EMD, per FGS Section C6.3.3.6.5. Records of the facility inspections performed by the units are maintained by the ECOs. Records of tank inspections performed by DPW O&M are maintained at the O&M Division.

3.6 USED OIL *(ALTÖL)* AND BATTERY MANAGEMENT

Used oil and battery management at the USAG Mannheim is conducted in accordance with the following requirements:

- Used oil is only burned for energy recovery in a facility that is permitted by the competent German authority. (FGS Section C6.3.8.1)
- Hazardous waste or used oil is not used for dust suppression or road treatment. (FGS Section C6.3.8.2)
- Used oil that will be reprocessed is not mixed with other wastes or used oil. (FGS Section C6.3.8.4)
- Used oil is sampled and analyzed for PCBs and halogen content by the disposal contractor F.K.M Buster A&R GmbH prior to reprocessing. (FGS Section C6.3.8.3)
- Synthetic oils that contain PCBs or halogen-containing substitutes are collected, stored, and disposed separately from other used oils. (FGS Section C6.3.8.2)
- Used lead-acid batteries are managed as hazardous wastes, regardless of whether they will be recycled or permanently disposed. (FGS Section C6.3.8.4) At the USAG

Mannheim, lead acid batteries are recycled by the disposal contractor Hans Schmitt GmbH.

4 TRAINING

All personnel involved in handling, storage, and disposal of HW receive appropriate training before assuming work duties involving exposure to HW. Operating instructions are given orally to all employees working with HW prior to initiating work. Written operating instructions are placed in all areas where HW is handled. Hazardous Waste and Hazardous Material Management training classes and refresher courses are provided for ECOs performing HW duties.

Training is performed by qualified personnel. Contact information is provided in Table 2-2 in Section 2.4. The classes are coordinated by EMD and sponsored by Installation Management Agency, Europe Region (IMA-Europe). The training program includes sufficient information to enable personnel to perform their assigned tasks while complying with HW requirements. Personnel are instructed in the following key areas:

- Emergency Procedures: response to fire/explosion/spills, use of communications/alarm systems, body and equipment clean-up;
- Safe use of HW equipment: drum/container handling/storage proper sampling procedures;
- Employee Protection: Personal Protective Equipment (PPE), safety and health hazards, hazard communication, worker exposure; and,
- Recordkeeping, security, inspections, contingency plans, storage requirements.

Training courses, attendees, and dates of completion are documented. ECOs at the units maintain HW personnel training records for at least three years after the termination of these personnel (refer to Table 2-2 in Section 2.4).

5 TRANSPORTATION

5.1 OFF-POST TRANSPORTATION PROCEDURES

All off-post transportation is performed by permitted transportation companies. DRMSI has verified that the contractors used are permitted for transportation.

5.2 ON-POST TRANSPORTATION PROCEDURES

This section is not applicable to the USAG Mannheim. All HW generated by the USAG Mannheim is picked up at the point of generation by the contractor SMT.

6 DISPOSAL

The USAG Mannheim contracts through the DRMO located at Coleman Barracks, Mannheim to dispose of its HW. The HW contractor currently used for collection and disposal of the main portion of HW generated is SMT, located in Hessheim in the State of Rheinland-Pfalz. SMT's subcontractors and final disposal facilities are appropriately permitted and certified facilities.

The USAG Mannheim recycles and reuses HW generated to the maximum extent practical. Most HW disposed through SMT (e.g. used solvent, POL contaminated solids, used paint, fluorescent light tubes) is recycled. Used oil is recycled through a separate contract with F.K.M. Buster A&R GmbH in Mannheim. Lead-acid batteries are recycled through a separate contract with Hans Schmidt GmbH&Co in Hanau. Dry cell batteries are recycled through a separate contract with GRS Batterien *(Gemeinsames Rücknahmesystem Batterien)* in Hamburg.

HW minimization efforts at the USAG include several pollution prevention opportunities. Examples include:

- an automatic paint gun washer in Bldg. 26, Coleman Barracks;
- an oil recycling unit at Bldg. 4b, Coleman Barracks;
- a biological part cleaner at Bldg. 1563, Spinelli Barracks; and
- an aerosol puncturing unit at Bldg. 1504c, Spinelli Barracks..

6.1 OPERATION OF USAG-OPERATED DISPOSAL FACILITY AND STATISTICAL DATA

This section is not applicable to the USAG Mannheim because the USAG does not operate its own disposal facility or any other permitted HW faciliy.

6.2 TENDERING OF WASTE REQUIRING SPECIAL SUPERVISION

The installations of the USAG Mannheim are located in the States of Baden-Württemberg, Hessen, and Rheinland-Pfalz. The only installation of the USAG Mannheim located in Hessen is Lampertheim Training Area. Only limited activities occur there and no HM is stored, thus HW is only generated on very rare occasions. In addition, there are no HWAPs or tanks operated at the Lampertheim Training Area.

SMT tenders *(andienen)* waste requiring special supervision to the *Sonderabfall-Management-Gesellschaft Rheinland-Pfalz mbH* (SAM). SAM is the central state agency *(Zentrale Stelle für Sonderabfälle)* for the State of Rheinland-Pfalz, in which SMT is located. This procedure is also in accordance with the specific waste disposal regulations of Baden-Württemberg, because generators of wastes requiring special supervision are exempt from tendering to the central state agency of Baden-Württemberg if the waste is collected by certified third parties or private waste contractors. (The regulations for individual States are detailed in Table A-3.4 in Appendix 3.).

7 DOCUMENTATION

According to German law and FGS, HW management and disposal includes an audit trail from the point of HW generation to ultimate disposal. (FGS Section C6.3.1.6.1) The following sections detail the documentation performed by the USAG Mannheim.

7.1 HAZARDOUS WASTE LOG

A written log is maintained at all locations where HW is picked up for off-site shipment to record the handling of all HW. (FGS Section C6.3.5.2)

Contact information for the individuals in charge of maintaining HW logs at HWAPs is provided in Table 2-2 in Section 2.4. HW logs are maintained at the facilities and are available to emergency personnel in the event of a fire or spill.

The HW logs are posted in a clear plastic binder at the respective HWAP. The HW logs contain the following information (FGS Section C6.3.5.2):

- Name/address of the generating activity;
- Description and hazard class of the hazardous waste;
- Number and types of containers;
- Quantity of hazardous waste;
- Date stored;
- Storage location; and,
- Disposition data (i.e., dates received, sealed and transported, and transporter used)

A sample log is provided in Appendix 5.

7.2 HAZARDOUS WASTE GENERATORS IDENTIFICATION

Each USAG Mannheim HW generator has an individual DoD identification number (building number). These identification numbers are provided in Appendix 2, Table A-2.1. In addition, three official waste generator numbers *(Abfallerzeugernummer)* have been assigned to the DoD installation by the competent German authority specific to each State (Baden-Württemberg, Hessen, Rheinland-Pfalz). The numbers are listed in Table A-2.1 in Appendix 2.

7.3 HAZARDOUS WASTE IDENTIFICATION

The USAG Mannheim DPW EMD maintains a current HWPS for each HW stream generated. An individual has been designated to ensure that the HWPSs are updated, as necessary. HWPSs must be produced immediately upon creation of a new waste stream and must be updated immediately to reflect any process modification that changes the character of the HW being handled. Contact information for this individual is provided in Section 2.4, Table 2-2.

Prior to disposal, all waste generated is chemically analyzed by the disposal contractor. For all wastes generated, the generator assigns a six-digit waste key as stipulated by the European Waste Catalogue.

7.4 DISPOSAL DOCUMENTATION

The disposal documentation varies depending on the waste category *(Abfallgruppe)* and disposal method. The required documentation includes a proof procedure *(Nachweisverfahren)* or the related simplified procedures, documentation regarding the permissibility of the disposal method, and records of actual waste transactions in proof logs *(Nachweisbücher)* (FGS Section C6.3.1.5).

7.4.1 Audit Trail

All HW generators maintain an audit trail of the HW disposed from the point of generation to ultimate disposal with accompanying documentation *(Begleitscheine)* or acceptance slips *(Übernahmescheine)*. The accompanying documentation is maintained in proof logs *(Nachweisbücher,* see Section 7.4.4 below). Table 2-2 in Section 2.4 provides information on where and by whom the disposal documentation is maintained.

Part of the audit trail is the Waste Management Plan *(Abfallwirtschaftskonzept)* and Waste Registry *(Abfallbilanz)* as addressed in Section 8 of this plan. In addition, the following is maintained as an internal audit trail for all generating activities within the USAG:

- DoD Form 1348-1A (internal turn-in document); and
- Signed copy of the disposal documentation.

7.4.2 Proof Procedure *(Nachweisverfahren)*

The proof procedure depends on the type of waste and on the type of disposal. Determine the proof procedure for each waste using Flow Chart 7-1. Refer to FGS Section C6.3.1.5, for the documentation required for each proof procedure. At the USAG Mannheim, collective disposal manifest *(Sammelentsorgungsnachweis)* are generally used. Proper disposal is documented by acceptance slips *(Übernahmenscheine)* obtained from the waste collector.

7.4.3 Accompanying Documentation

The USAG Mannheim's accompanying documentation *(Begleitscheine)* and/or acceptance slips *(Übernahmescheine)* contain the following information:

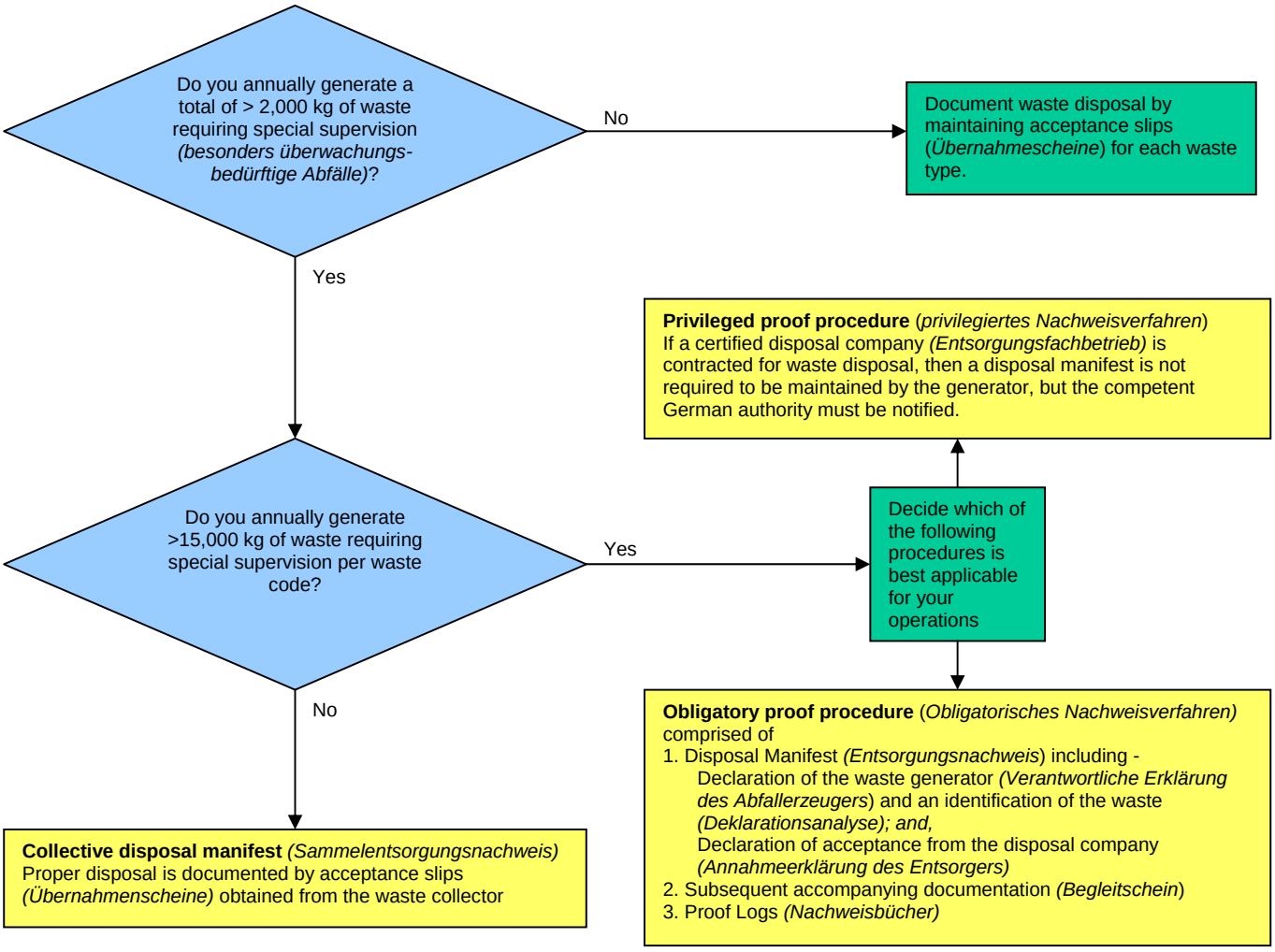
- Name and address of the hazardous waste generator;
- Hazardous waste generator number *(Abfallerzeugernummer)* assigned by the competent German authority to the DoD installation;
- Transporter's name and address;
- Destination name and address;
- Waste key (defined by the European Waste Catalogue) and corresponding name (see FGS Tables C6.T3 and C7.T1) of the hazardous waste;
- Date of shipment; and
- Date of receipt.

7.4.4 Proof log *(Nachweisbuch)*

The EMD maintains a proof log for all outgoing HW generated from USAG Mannheim and tenant activities except for AAFES and the Mannheim Schools that maintain a separate proof log for their individual activities. The proof log contains the following documents:

- Accompanying documentation *(Begleitscheine)*; and/or
- Acceptance slips *(Übernahmescheine)*;
- Disposal manifests *(Entsorgungsnachweise)*, simplified disposal manifests *(vereinfachte Entsorgungsnachweise)*, collective disposal manifests *(Sammelentsorgungsnachweise)* or simplified collective disposal manifest *(vereinfachter Sammelentsorgungsnachweis);* and,
- Corresponding waste characterization *(Deklarationsanalyse)*.

Flow Chart 7-1 Disposal Documentation Procedures for Wastes Requiring Special Supervision



7.5 USAG RECORDKEEPING

The USAG recordkeeping is summarized in Table 7-1.

Table 7-1. USAG Recordkeeping

Record	Time Maintained	Location where record is maintained
HW log	Until closure of the facility	Any location where HW is picked up for off-site shipment
Inspection logs (see Section 3.5)	3 years	Inspection logs for HWAPs are maintained at the DPW EMD
Internal turn-in documents (e.g., Department of Defense (DoD) Form 1348-1A, manifests)	3 years	DPW EMD and DRMO at Coleman Barracks, Mannheim
Proof log *(Nachweisbuch)* for outgoing HW	3 years after last entry	DPW EMD and DRMO at Coleman Barracks, Mannheim
Disposal documentation	10 years after closure of the facility	The USAG Mannheim does not operate its own disposal facility; therefore, maintenenace of disposal documentation is not applicable.
Training records	3 years after termination of employment	DPW EMD maintains attendance roster ECOs maintain training certificates

8 WASTE MANAGEMENT PLAN AND WASTE REGISTRY

The Waste Management Plan and the Waste Registry consist of seven forms that document information related to waste generation and disposal. If mandated, these forms are prepared prior to 1 April of the following calendar year by the USAG so that they can be presented to the German authorities upon request.

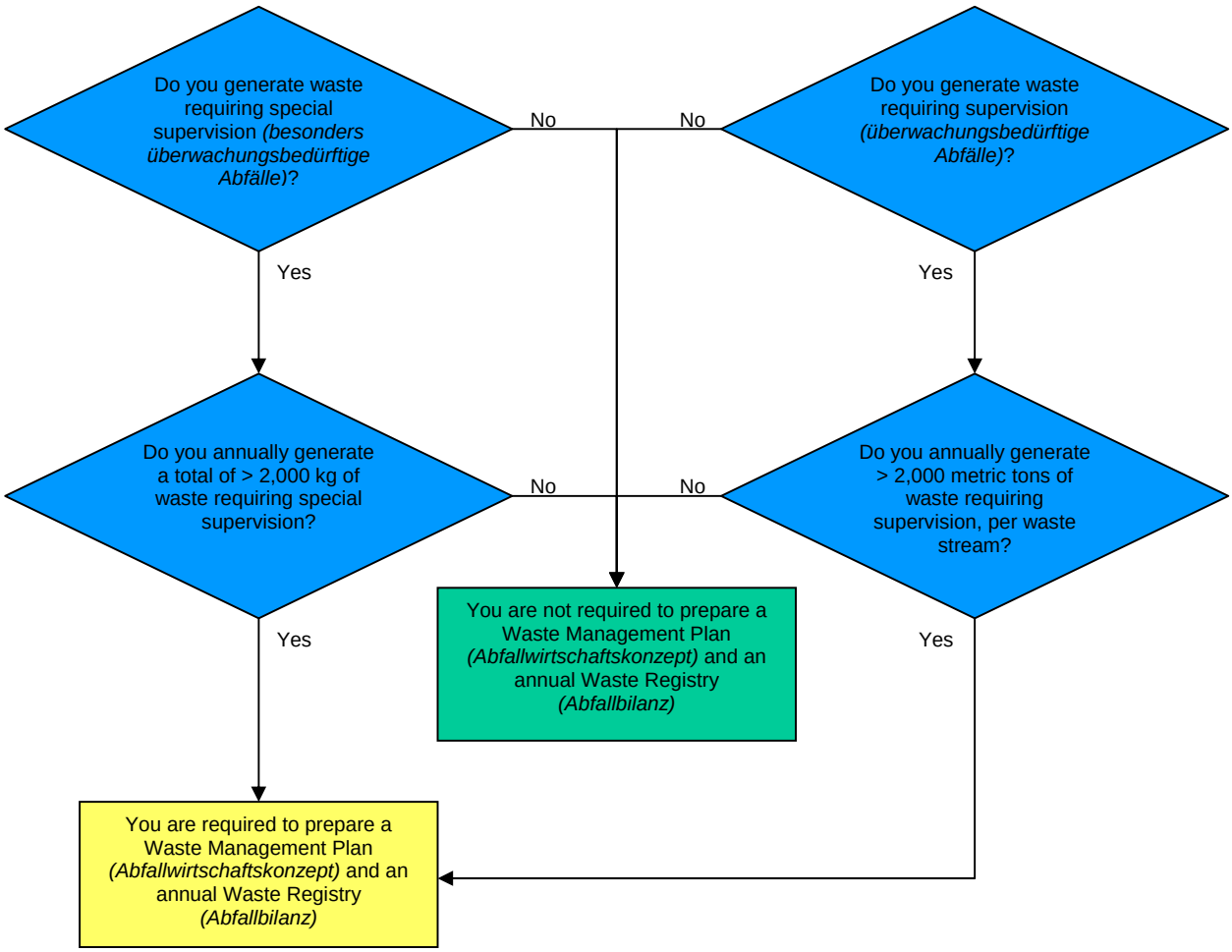
The USAG evaluates waste generation on an annual basis using Flow Chart 8-1 (see next page) to determine if a Waste Management Plan and Waste Registry are required. The annual determinations are documented in Table 8-1. If prepared, the Waste Management Plan is valid for five years. In that case, the USAG continues to evaluate only the requirement for the Waste Registry annually.

Table 8-1. Documentation of the Need for a Waste Management Plan and/or a Waste Registry

Year	Waste Management Plan Required		Waste Registry Required	
	Yes	No	Yes	No
2004	X		X	
2005				
2006				
2007				
2008				

Information on where and by whom the Waste Management Plan and the Waste Registry are maintained is presented in Table 2-2 in Section 2.4.

Flow Chart 8-1 Determination of the Necessity of a Waste Management Plan and a Waste Registry



9 CONTINGENCY PLANS

The USAG has developed a spill prevention and response plan (SPRP) that includes a HW contingency plan and a Red Plan. The SPRP contains a description how to respond to spills and releases of HW (FGS Section C6.3.6). This plan has been prepared predominantly in accordance with the provisions in FGS Chapter 18 (Spill Prevention and Response Planning), but also with provisions from FGS Chapter 5 (Hazardous Materials), Chapter 6 (Hazardous Wastes), Chapter 9 (POL), Chapter 11 (Pesticides), and Chapter 14 (PCBs).

The on-site fire department, the on-site hospitals, and any emergency response teams identified in the plan is provided with a copy of the SPRP. Each HWAP is provided with copies of the pertinent section(s) of the SPRP. Updates will be forwarded to these organizations as appropriate.

10 REFERENCES

Act to support recycling and ensure environmentally sound disposal of waste. *Gesetz zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Beseitigung von Abfällen (Kreislaufwirtschafts- und Abfallgesetz)*. 27 September 1994, last amended in December 2004

Disposal manifest ordinance. *Verordnung über Verwertungs- und Beseitigungsnachweise (Nachweisverordnung)*. 17 June 2002, last amended in August 2002

Ordinance on the European Waste Catalogue. *Verordnung über das Europäische Abfallverzeichnis (Abfallverzeichnisverordnung)*. 10 December 2001, last amended in July 2002

Ordinance on the identification of waste to be recycled that requires supervision. *Verordnung zur Bestimmung von überwachungsbedürftigen Abfällen zur Verwertung (Bestimmungsverordnung überwachungsbedürftiger Abfälle zur Verwertung)*. 10 September 1996, last amended in December 2001

Ordinance on waste management plans and waste registries. *Verordnung über Abfallwirtschaftskonzepte und Abfallbilanzen (Abfallwirtschaftskonzept- und –bilanzverordnung)*. 13 September 1996, last amended in June 2002

Ordinance on waste management officers. *Verordnung über Betriebsbeauftragte für Abfall*. 26 October 1977

Waste management plans and waste registries for businesses. *Betriebliche Abfallwirtschaftskonzepte und Abfallbilanzen, Deutscher Industrie- und Handelstag, Bonn*. September 1999

U.S. Department of Defense (DoD). *Final Governing Standards, Germany*, Installation Management Agency, Europe Region Office. 17 December 2002

Ordinance on Facilities Handling Water Endangering Substances of the State Baden Württemberg. *Verordnung des Umweltministeriums über Anlagen zum Umgang mit wassergefährdenden Stoffen und über Fachbetriebe – Baden Württemberg (VAwS – Anlagenverordnung wassergefährdender Stoffe)*. 11 February 1994, last amended 22 December 2003

Ordinance on Facilities Handling Water Endangering Substances of the State Rheinland-Pfalz. *Landesverordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen und über Fachbetriebe - Rheinland-Pfalz (VAwS – Anlagenverordnung)*. 1 February 1996, last amended 21 July 2003

Ordinance on Facilities Handling Water Endangering Substances of the State of Hessen. V*erordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen und über Fachbetriebe – Hessen (VAwS – Anlagenverordnung).* 16 September 1993, last amended February 2004

APPENDIX 1

USAG LOCATIONS OF HWSA AND HWAPS

Symbols for Hazardous Waste Management Plan Mapping Layer

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map is given a designation number in the following configuration:

XXXX = HWAP ID Number. The ID No. is the building number (e.g. 313).

Hazardous Waste Storage Area (HWSA)

Each HWSA on the map is given a designation number in the following configuration:

XXXX = HWSA ID Number. The ID No. is the building number (e.g. 313).

LIST OF FIGURES

APPENDIX 2

USAG LIST OF HWSA AND HWAPS

A list of Environmental Compliance Officers including contact information is continously updated at the EMD.

Table A-2.1. List of USAG Mannheim HWSA and HWAPs

ARLOC	Facility Number	Unit/ Organization	Environmental Compliance Officer	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE140	4b	2/502nd Aviation Regiment	CW4 Boazman, Mr. Tolberd	W81CJX	H19007060	C
GE140	9	Dyncorp, OLR	Mr. Hayes, Mr. Ruis	W81CJX	H19007060	A
GE140	21	Fire & Emergency Services Division	Mr. Ott, Mr. Krug	W81CJX	H19007060	A
GE140	26a	2/502nd Aviation Regiment	CW4 Boazman, Mr. Tolberd	W81CJX	H19007060	C
GE140	42	Dental Clinic	SPC Pittman, SGT Young	W81CJX	H19007060	B
		Troop Medical Clinic	CPT Lanctot, SGT Stephens			
GE140	49b	70th Transportation Company	SPC Rockwell	W81CJX	H19007060	C
GE140	57a	1-214th Aviation Regiment (Motorpool)	CW2 Lloyd, SGT Hoggard	W81CJX	H19007060	C
		18th Military Police Brigade	SGT Arredondo, SSG Chasteen			
GE140	60	Mannheim Laboratory Center (MLC)	Dr. Hill, Dr. Gaa	W81CJX	H19007060	C
GE52F	120	DRMO Coleman CSF	Ms Pouncey	FG4070	H19007060	D
GE82J	219a	44th Signal Battalion	CW2 Rivera	W81CJX	H19007060	C
		7th Signal Brigade (HHC)	SGT McDonald			

ARLOC	Facility Number	Unit/ Organization	Environmental Compliance Officer	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE82J	249b	44th Signal Battalion	CW2 Rivera	W81CJX	H19007060	C
		4ASOS	TSGT Cardona			
GE07P	311	AAFES gas station	Ms. Menefee	HXGMCG	H19007060	C
GE07P	313	PX shopping center	Mr. Bidardel	HXGCBD	H19007060	B
GE83C	351	AAFES Car Care Center	Ms. Dunbar	HXGMCG	H19007060	C
GE83C	355	95th Military Police Battalion	MSG Ball	W81CJX	H19007060	C
		72nd Signal Brigade	MSG Finch			
GE83C	356	DPW Shops	Mr. Eschborn	W81CJX	H19007060	C
GE83C	374	DPW Self Help Shop	Mr. Gutbrod	W81CJX	H19007060	A
GE83C	405b	SORT Center	Mr. Helmling, Mr. Iwuala	W81CJX	H19007060	D
GE83C	421	Maintenance Activity Mannheim (MAM)	Mr. Riehl, Mr. Schott	W81CJX	H19007060	C
GE83C	426	Skill Development Center	Mr. Linschoten	W81CJX	H19007060	C
GE83C	429	Maintenance Activity Mannheim (MAM)	Mr. Riehl, Mr. Schott	W81CJX	H19007060	A
GE856	519	596th Maintenance Company	SSG Rist	W81CJX	H19007060	C
		181st Transportation Battalion (HHD)	SPC Lanks			
GE07P	739	Dental Clinic	SGT Santiago	W81CJX	H1900706	A

ARLOC	Facility Number	Unit/ Organization	Environmental Compliance Officer	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
		Health Clinic	SGT Jones		0	
GE27S	1042a	FFEMA	Mr. Schwarz, Mr. Mueller	W81CJX	H19007060	C
GE140	1271	9th Military Police Detachment	CS1 Komarnitzky	W81CJX	H19007060	C
GE140	1344a	28th Transportation Battalion	SFC Neitzel, CPT Stephens	W81CJX	H19007060	C
GE140	1349a	260th Transportation Company	SGT Gatchet	W81CJX	H19007060	C
		6981st CSG	Mr. Ullmer, Mr. Kruse			
		51st Transportation Company	CW2 Pullins, SPC Vega			
		377th Transportation Company	SGT Schluckbier			
GE140	1375rub	1-214th Aviation Regiment (D Company)	SGT Jones, SPC Jordan	W81CJX	H19007060	C
GE79R	1504c	515th Transportation Company	SSG Richardson	W81CJX	H19007060	C
GE79R	1569a	574th Supply Company	Mr. Reis	W81CJX	H19007060	C
		2143rd US Army Maintenance	SFC Jenkins			
		BASOPS-CST	Mr. Zielonka			
		7th ARCOM ESS-X	Mr. Smallwood			
GE79R	1854a	512th Maintenance Company	CW3 Pehl	W81CJX	H19007060	C
GE32H	3556	AAFES	Mr. Schmitt	HXGDMH	J08140116	A

ARLOC	Facility Number	Unit/ Organization	Environmental Compliance Officer	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE32H	3570	AAFES	Mr. Schmitt	HXGDMH	J08140116	C

APPENDIX 3

STATE-SPECIFIC REQUIREMENTS

1. State-Specific Storage Tank Requirements

BADEN-WÜRTTEMBERG

If storage facilities exceed the capacity limits indicated in Table A-3.1, they are not permitted in Water Protection Zone III areas.

Table A-3.1. Capacity Limits of Storage Facilities in Water Protection Zone III in Baden-Württemberg

Water Hazard Class *(Wassergefährdungsklasse – WGK)*	Capacity Limit [m³]
1 (low hazard rating)	No limit provided
2 (medium hazard rating)	Above 100
3 (high hazard rating)	Above 10

UST operation is prohibited in the outer water protection zone (Zone III) if the maximum storage quantities indicated in Table A-3.2 are exceeded.

Table A-3.2. Maximum Storage Capacities for USTs in Water Protection Zone III in Baden Württemberg

Water Hazard Class *(Wassergefährdungsklasse – WGK)*	Volume [m³]
1	1,000
2	10
3	1

HESSEN

The competent state authorities must be notified if there are tanks storing water-endangering substances.

Decommissioned USTs that present a danger of fire or explosion must be removed from the ground and not closed in-place by filling with an inert material.

Inspections are required of areas where USTs have been removed; these will include an assessment of potential soil and groundwater contamination.

Piping within control shafts *(Kontrollschächte)* or manholes *(Domschächte)* must be color-marked in accordance with the German Institute for Standardization *(Deutsches Institut fur Normung)* (DIN) technical standard 2403 to indicate the medium or substance flowing inside the piping or below the manhole *(Kontroll- oder Domschacht).*

The space between the container wall and the secondary containment wall must be at least 40 centimeters apart for facilities storing heating oil (extra light), unless reasons for the upkeep and corrective maintenance require more space. Smaller spaces are only admissible if the collecting facility is monitored in the non-observable area by a leak detection system, or if a sufficient descending ground gradient is present towards the observable side so that any escaping substances can be visually detected immediately.

RHEINLAND-PFALZ

Operators must submit a notification to the competent German authority if they plan to operate, significantly modify, or decommission facilities storing water endangering substances. This requirement does not apply to the operation of aboveground storage tanks for gasoline, heating oil, and diesel fuel with a volume no greater than 1,000 liters, as long as they are located outside water and mineral spring protection zones.

Heating oil storage tanks in Rheinland-Pfalz with a volume less than 5,000 liters are exempt from the required inspection.

2. State-Specific Determination of Ordinary and Conventional Facilities

Table A-3.3 Determination of Ordinary and Conventional Facilities for Baden-Württemberg und Rheinland-Pfalz [1]

Criterion	Storage Containers are Double-Walled or Single-Walled with Secondary Containment [2]	Comply with Applicable Technical Specifications and Construction Requirements	Equipped with Automatic Leak Detection
Water Hazard Category A Facilities [3]	N/A [5]	N/A [5]	N/A [5]
Water Hazard Category B, C, or D Facilities [3]	X [6]	X	X
Drum Storage Area [4]	X [7]	NA	NA

Notes:

X If all these requirements are fulfilled, the facility is an ordinary and conventional facility.

(1) Hessen is not included, because the USAG Mannheim does not operate any HW facilities in Hessen.

(2) Secondary containment must retain the entire volume of the storage container. If there are several containers, then the secondary containment must retain the volume of the largest container, or at least 10 percent of the total storage volume.

(3) See corresponding water hazard category tables for each State (following pages)

(4) Only applicable to Rheinland-Pfalz.

(5) Water Hazard Category A facilities are always considered ordinary and conventional facilities.

(6) Secondary containment must be liquid-proof.

(7) Secondary containment must meet specific regulatory requirements in Rheinland-Pfalz.

3. State-Specific Requirements of Water Hazard Category Facilities

The following region-specific tables define the Water Hazard Category of facilities (i.e., category A to D) according to VAwS *(Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen über Fachbetriebe, Anlagenverordnung wassergefährdender Stoffe)* for Baden-Württemberg and VAwS for Hessen. The Water Hazard Category of facilities is based on the Water Hazard Class of the hazardous material stored, and the volume of hazardous material in cubic meters (m^3) or mass in metric tons. However, it should be noted that the definition of the water hazard category facilities given in the VAwS for Baden-Württemberg and in the VAwS for Hessen differs from the definition in the FGS that is based on previous releases of the VAwS and do not include modifications from the latest release. The determination of the Water Hazard Category of facilities in Table A-2.1 is based on VAwS classification.

BADEN-WÜRTTEMBERG AND HESSEN

Table A-3.4. Definition of Water Hazard Category Facilities in Baden-Württemberg and Hessen

Volume in m^3 or mass in metric tons	Water Hazard Class			
	0	1	2	3
up to 0.1	Category A	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category A	Category B
between 1.0 and 10	Category A	Category A	Category B	Category C
between 10 and 100	Category A	Category A	Category C	Category D
between 100 and 1,000	Category A	Category B	Category D	Category D
above 1,000	Category A	Category C	Category D	Category D

RHEINLAND-PFALZ

Table A-3.6. Definition of Water Hazard Category Facilities in Rheinland-Pfalz

Volume in m^3 or mass in metric tons	Water Hazard Class		
	1	2	3
up to 0.1	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category B
between 1.0 and 10	Category A	Category B	Category C
between 10 and 100	Category A	Category C	Category D
between 100 and 1,000	Category B	Category D	Category D
above 1,000	Category C	Category D	Category D

4. State-Specific Tendering

Table A-3.4. State-specific Tendering Requirements

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
Baden-Württemberg	*Sonderabfallagentur Baden-Württemberg GmbH* (SAA)	The generator *(Andienungspflichtige)* of waste requiring special supervision that is to be permanently disposed of *(beseitigen),* must tender *(andienen)* this waste to the central state agency *(Zentrale Stelle für Sonderabfälle),* if this waste is generated, treated, stored, or disposed of in Baden-Württemberg.
		If waste that is to be permanently disposed of is exported outside the European Community, the associated notification *(Notifizierung)* is equivalent to a tendering *(Andienung)*. The central state agency *(Zentrale Stelle für Sonderabfälle)* may require additional information about methodologies of disposal and operation of facilities as well as samples from the waste being disposed.
		The generator of waste requiring special supervision must supply the waste to the facility that is approved by the SAA. This applies if the generator has tendered the wastes to the SAA. If waste must be subjected to physical, chemical, or biological treatment prior to disposal, the generator may propose an appropriate facility to the SAA.
		The generator of waste requiring special supervision that is to be disposed is exempt from the obligation to tender the waste to the SAA in the following cases:

Table A-3.4. State-specific Tendering Requirements

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
		If the total quantity of waste requiring special supervision that is to be disposed of does not exceed 2,000 kg (2 metric tons) or the total quantity of each individual waste type does not exceed 1,000 kg (1 metric ton); however, it must be ensured that the waste contractor responsible for collection or final disposal fulfils the declaration requirements to the SAA. If the waste requiring special supervision is collected and disposed of via collective disposal declaration *(Sammelentsorgungsnachweis)* by a waste contractor; the notification to the SAA must be made by the waste generator and the appropriate declaration must be provided to the central state agency *(andienungspflichtig)* by the waste contractor. If waste requiring special supervision is disposed of in a certified facility operated by the waste generator that was in operation prior to 1 January 1996. If waste requiring special supervision is collected by certified third parties or private waste contractors.
Hessen	*Zentraler Träger*	The generator of waste requiring special supervision *(Andienungspflichtige)* must provide a written declaration to the central state agency *(Zentraler Träger)* that is responsible for ensuring the proper disposal of this type of waste.
		The declaration must state the type, quantity, and origin of the waste and include the analysis of declaration *(Deklarationsanalyse)* and the declaration of the waste generator *(Verantwortliche Erklärung). The central state agency (Zentraler Träger)* may require additional information. If the waste is delivered to a contracted waste collector, this requirement applies to the contracted waste collector; however, any necessary analyses must be conducted at the expense of the waste

Table A-3.4. State-specific Tendering Requirements

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
		generator *(Andienungspflichtige).*
Rheinland-Pfalz	*Sonderabfall-Management-Gesellschaft Rheinland-Pfalz mbH (SAM)*	The generator of waste requiring special supervision *(Andienungspflichtige)* must provide a written declaration to the central state agency *(Zentrale Stelle für Sonderabfälle)* that is responsible for ensuring the proper disposal of the waste.
		If the generator proposes a contractor for the disposal of waste requiring special supervision, the generator must provide a statement of acceptance *(Annahmeerklärung)* of this contractor to the SAM in addition to the declaration.
		The official Rheinland-Pfalz template must be used for the declaration. The template can be obtained from SAM.
		If waste requiring special supervision is collected and disposed of via collective disposal declaration *(Sammelentsorgungsnachweis*), the waste carrier is responsible for providing the appropriate declaration to the SAM *(andienungspflichtig).*

APPENDIX 4

CLOSURE PLANS

Hazardous Waste Storage Area Closure Plan for DRMO Coleman CSF

Closure Plan_DRMO
Coleman CSF

APPENDIX 5

EXAMPLE INSPECTION CHECKLISTS AND FORMS

Checklist forms used as a tool for routine internal HM and HW inspections or for the internal Environmental Performance Assessment (EPAS) regarding HM and HW performed by the EMD are provided below. An example checklist for daily HW tank inspections, which are performed by the units, is provided following the EPAS checklist. Additionally, an example of a HWMP training form, which can be used to record personnel HW training, and an example of the HW log that is maintained at HWAPs by SMT are provided.

Environmental Performance Assessment
Hazardous Materials / Hazardous Waste

ACTIVITY/UNIT: _____ INSTALLATION: _____

DATE OF ASSESSMENT: _____

REPRESENTATIVES interviewed: (Name, Function, Phone, Email):

_____

_____

	YES	NO	N/A
PUBLICATIONS ON HAND:			
- FINAL GORVERNING STANDARDS (FGS)	____	____	____
- USAG Mannheim Memo 200-1	____	____	____
ENVIRONMENTAL COMPLIANCE OFFICER APPOINTED?	____	____	____

_____ _____

PRIMARY ALTERNATE

APPOINTED PERSONNEL ATTEND HM / HW TRAINING ?	____	____	____
DATE OF LAST TRAINING: _____			
TRAINING RECORDS MAINTAINED FOR THREE YEARS ?	____	____	____
UNIT HM/HW SOP/SPILL RESPONSE PLAN DEVELOPED ?	____	____	____
DATE OF LAST UPDATE: _____			
ANNUAL HM INVENTORY PREPARED ?	____	____	____
INVENTORY SUBMITTED TO EMD ?	____	____	____
WEEKLY HM / HMSA INSPECTIONS CONDUCTED ?	____	____	____
INSPECTION SHEETS ON FILE SINCE: _____			
DAILY TANK INSPECTIONS CONDUCTED ?	____	____	____
INSPECTION SHEETS ON FILE SINCE: _____			
SITE MAP OF STORAGE, DISTRIBUTION & HANDLING LOCATIONS PREPARED ?	____	____	____
MATERIAL SAFETY DATA SHEETS READILY AVAILABLE ?	____	____	____
MSDS IN GERMAN LANGUAGE AVAILABLE ? (If applicable)	____	____	____
BETRIEBSANWEISUNGEN AVAILABLE ? (If applicable)	____	____	____

Environmental Performance Assessment
Hazardous Materials / Hazardous Waste

WORK AREA(S)_____BLDG #_____

	YES	NO	N/A
PROPER HAZARD SIGNS POSTED AT WORK AREA ?	____	____	____
PROPER MANDATORY SIGNS POSTED AT WORK AREA ?	____	____	____
PROPER PROHIBITORY SIGNS POSTED AT WORK AREA ?	____	____	____
ONLY DAILY-USE QUANTITIES OF HMS STORED IN WORK AREAS ?	____	____	____
DAILY-USE QUANTITES STORED IN SAFETY CABINETS ?	____	____	____
ACCESS TO TOXIC/VERY TOXIC HMS SECURED ?	____	____	____
SAFETY CABINETS PROPERLY LABELED ?	____	____	____
EXPIRED MATERIALS AVAILABLE ?	____	____	____
EXCESS HMS PROCESSED THRU MANNHEIM REUSE CENTER ?	____	____	____
ARE ALL HM CONTAINERS CLEARLY LABELED ?	____	____	____
ARE ALL HM CONTAINERS IN GOOD CONDITION ?	____	____	____
ARE DRIP PANS/ABSORBENT PLACED UNDER CONTAINERS TO COLLECT DRIPS AND SPILLS ?	____	____	____
ARE ONLY COMPATIBLE HMS STORED TOGETHER ?	____	____	____
ARE ALL HW CONTAINERS CLEARLY LABELED ? "HAZARDOUS WASTE", Name of waste, Hazardous Property Label)	____	____	____
DO ALL HW CONTAINERS HAVE SECURED LIDS?	____	____	____
ARE ALL HWS PROPERLY SEGREGATED ?	____	____	____
ARE ALL HWS REMOVED **DAILY** TO THE HWAP ?	____	____	____
PARTS CLEANING MACHINE AVAILABLE ?	____	____	____
PARTS CLEANING MACHINE PROPERLY LABELED ?	____	____	____
COMPRESSED GAS CYLINDERS AVAILABLE ?	____	____	____
GAS CYLINDERS PROPERLY LABELED ?	____	____	____
GAS CYLINDERS PROPERLY SEPARATED & SECURED ?	____	____	____
SECONDARY CONTAINMENT AVAILABLE FOR:			
55 GALLON DRUMS ?	____	____	____
LEAD ACID BATTERIES ?	____	____	____
SPILL CLEAN-UP EQUIPMENT AVAILABLE ?	____	____	____
PERSONAL PROTECTIVE EQUIPMENT AVAILABLE ?	____	____	____
FIRE EXTINGUISHER AVAILABLE ?	____	____	____

Environmental Performance Assessment
Hazardous Materials / Hazardous Waste

STORAGE AREA(S_____BLDG #_____

	YES	NO	N/A
HMSA SECURED AGAINST UNAUTHORIZED THEFT ?	____	____	____
PROPER WARNING SIGNS POSTED AT STORAGE AREA ?	____	____	____
EMERGENCY PHONE NUMBERS POSTED INSIDE AND OUTSIDE ?	____	____	____
ACCESS FOR QUALIFIED PERSONNEL ONLY ?	____	____	____
HMSA HAS A LEAK PROOF FLOOR ?	____	____	____
SECONDARY CONTAINMENT IS PROVIDED ?	____	____	____
ADEQUATE AISLE SPACE MAINTAINED ?	____	____	____
ARE ALL HM CONTAINERS CLEARLY LABELED ?	____	____	____
ARE ALL HM CONTAINERS IN GOOD CONDITION ?	____	____	____
ARE DRIP PANS/ABSORBENT PLACED UNDER CONTAINERS TO COLLECT DRIPS AND SPILLS ?	____	____	____
ARE ONLY COMPATIBLE HMS STORED TOGETHER ?	____	____	____
EXPIRED MATERIALS AVAILABLE ?	____	____	____
SPILL CLEAN-UP EQUIPMENT AVAILABLE ?	____	____	____
PERSONAL PROTECTIVE EQUIPMENT AVAILABLE ?	____	____	____
FIRE EXTINGUISHER AVAILABLE ?	____	____	____

HW ACCUMULATION POINT BLDG #_____

HWAP SECURED AGAINST UNAUTHORIZED THEFT ?	____	____	____
PROPER WARNING SIGNS POSTED AT THE HWAP ?	____	____	____
EMERGENCY PHONE NUMBERS POSTED INSIDE AND OUTSIDE ?	____	____	____
ACCESS FOR QUALIFIED PERSONNEL ONLY ?	____	____	____
HWAP HAS A LEAK PROOF FLOOR ?	____	____	____
ARE ALL HW CONTAINERS CLEARLY LABELED ?	____	____	____
ARE ALL HW CONTAINERS IN GOOD CONDITION ?	____	____	____
ALL HW STREAMS PROPERLY SEGREGATED ?	____	____	____
ONLY ONE CONTAINER PER WASTE STREAM AVAILABLE ?	____	____	____
HWAP IS NEAT, ORGANIZED, AND CLEAN ?	____	____	____
HW LOG MAINTAINED ?	____	____	____

Environmental Performance Assessment
Hazardous Materials / Hazardous Waste

OUTDOOR STORAGE AREA(S_____BLDG #_____

COMPRESSED GAS CYLINDERS	YES	NO	N/A
STRORAGE SHED AVAILABLE FOR CYLINDERS ?	____	____	____
PROPER WARNING SIGNS POSTED ?	____	____	____
CYLINDERS PROPERLY SEPARATED ?	____	____	____
CYLINDERS PROPERLY SECURED ?	____	____	____
CYLINDERS PROPERLY PROTECTED FROM WEATHER CONDITIONS ?	____	____	____
NO SMOKING SIGNS AVAILABLE ?	____	____	____

OTHER ITEMS OF INTEREST	YES	NO	N/A
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____
_____	____	____	____

NAME OF ASSESSOR: _____

DAILY HAZARDOUS WASTE TANK CHECKLIST

Building / Area: Date:

Inspector: Unit:

HAZARDOUS WASTE TANK	YES	NO	N/A
1. Are operating instructions clearly visible for each hazardous substance/waste storage tank system?	☐	☐	☐
2. Are all tank specifications (i.e., capacity, construction type, contents) clearly indicated on each tank system?	☐	☐	☐
3. Is the labeling on each tank in English and German?	☐	☐	☐
4. Is each indoor storage area containing one or more tanks (that require permitting or notification) adequately lighted and ventilated?	☐	☐	☐
5. Is the fill level visible for each tank and tank container from its' exterior?	☐	☐	☐
6. Is data from monitoring and leak detection equipment gathered daily?	☐	☐	☐
7. If the tank has an internal positive pressure exceeding 0.1 bar, is monitoring being performed?	☐	☐	☐
8. Is any portion of the tank system damaged (i.e., bulges, dents, rust, cracks)?	☐	☐	☐
9. Is any portion of the tank system leaking?	☐	☐	☐
10. Are POL storage tanks surrounded by containment systems?	☐	☐	☐
If yes, are these containment systems dry?	☐	☐	☐
Is the water release system closed (valve) or in place (drain plug)?	☐	☐	☐
11. Are the areas immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, in good condition, including nearby vegetation (i.e., not dead, or wet during dry weather)?	☐	☐	☐
12. Is each tank system used for storage of flammable liquids operated in accordance with state-of-the-art technology?	☐	☐	☐
13. Are Hazard Class A I, A II, or B flammable liquids not stored in adjoining chambers of a multiple chamber tank to light heating oil?	☐	☐	☐
14. Is each storage tank secured from unauthorized entry/transfer?	☐	☐	☐
If yes to 13, provide explanation of security (i.e., locks, monitor, pump deactivation, etc.):			
15. Is a 24-hour notification system available to contact emergency service providers?	☐	☐	☐

E. Other Comments:

F. Corrective Actions (for each non-compliant item, please describe type and completion date of corrective actions)

HWMP TRAINING FORM

An example form is provided below. A similar form is completed by the USAG Mannheim each time a training session related to the HWMP is performed. Participants print their name, their unit or title, telephone extension, and sign the form. The trainer completes the upper portion of the form, including topics covered in addition to the general review of the plan and spill events.

Trainer:	**Date:**

If box check, this HWMP training session included a review and discussion of the following items:

☐ Each section contained within this HWMP,
☐ Equipment and components and/or,
☐ Recently developed or adopted precautionary measures or procedures.

Other topics and/or discussion items which were reviewed included the following:

Participant's Name	**Unit/Title & Phone Extension**	**Participant's Signature**

Trainer's Signature:

EXAMPLE HAZARDOUS WASTE LOG

Generating Unit/Activity: **28th Transportation Battalion**

Name of Hazardous Waste	Hazard Class	EWC	Qty of waste in %	Type of container	Date Container controlled	Start date of Accumulation	End date of Accumulation	Scheduled Disposal date
Oily Solids (Rags)	4.1	150202		1 x 1.1 cbm				
Oily Solids (Absorbent)	4.1	150202		1 x 1.1 cbm				
Containers, metal, <50cm	4.1	150110		1 x 1.1 cbm				

Transporter and Disposal Facility:

SUED-MUELL TRANSPORT

Gerolsheimer Strasse

67258 Hessheim

Forms for the Waste Management Plan and the Waste Registry are provided in a separate Excel file.

Waste Registry
USAG Mannheim

APPENDIX 6

INCOMPATIBLE HAZARDOUS SUBSTANCES

Table A-6.1. Incompatible Chemical Classes

Do not mix substances in hazard classes indicated by an X					
	Flammable	Corrosive	Toxic	Noxious	Reactive
Flammable		**X**	**X**		**X**
Corrosive	**X**	**X** (1)	**X**		**X**
Toxic	**X**	**X**			**X**
Noxious					**X**
Reactive	**X**	**X**	**X**	**X**	

(1) Do not store acids and bases together.

Some deadly combinations

Acids + Oil or Grease =	FIRE
Acids + Caustics =	HEAT/SPATTERING
Caustics + Epoxies =	EXTREME HEATS
Chlorine Gas + Acetylene =	EXPLOSION
Flammable liquids + Hydrogen Peroxide =	FIRE/EXPLOSION
Aluminum Powder + Ammonium Nitrate =	EXPLOSION
Sodium Cyanide + Sulfuric Acid =	LETHAL HYDROGEN CYANIDE
Ammonia + Bleach =	NOXIOUS FUMES

APPENDIX 7

HAZARDOUS WASTE TRAINING GUIDANCE

All personnel involved in HW handling, storage, and disposal must receive training before assuming work duties involving HW exposure, and annually thereafter. The following table provides recommendations for training by activity and general position description.

Table A-7.1. Hazardous Waste Training Guidance

Activity Triggering Training Requirement	What Type of Training Is Required?	Who Must Receive Training?	When is Training Required?	Refresher Required?	Length of Training?	References
Duties involving actual or potential exposure to hazardous waste	OSHA Training, covering sufficient information to enable personnel to perform assigned duties and fully comply with pertinent HW requirements on: • Emergency procedures • Emergency equipment, emergency systems; • Response to fire/explosion/ spills; • Communications/alarm systems • Body and equipment clean up • Drum/Container Handling/Storage • Personal Protective Equipment • Record keeping	All employees and supervisors involved in the handling or management of hazardous property: HW Handlers HW Technicians Environmental Protection Specialists HW Supervisors	Prior to assuming duties	Yes - Annually	40 Hours Initial Training 3 Days of Supervised On-The-Job Training 8 Hour Annual Refresher	FGS C6.3.9.1 through FGS C6.3.9.3 29 CFR 1910.120(e) (3)(i)
	OSHA Training (same as above)	Environmental personnel occasionally on site (spill investigators, treatment plant inspectors, land surveyors, groundwater monitoring personnel) HW Supervisors	Prior to assuming duties	Yes - Annually	24 Hours 1 Day of Supervised On-The-Job Training 8 Hour Annual Refresher	29 CFR 1910.120(e) (3)(iii)
	RCRA Training	HW Supervisors HW Inspectors HW Coordinators / Assistant Coordinators	Prior to assuming duties	Yes - Annually	NA	40 CFR 264.16/265.16
	Supervisor Training	HW Supervisors	Prior to assuming duties	No	8 Hours	29 CFR 1910.120(e)(4)

Table A-7.1. Hazardous Waste Training Guidance

Activity Triggering Training Requirement	What Type of Training Is Required?	Who Must Receive Training?	When is Training Required?	Refresher Required?	Length of Training?	References
Emergency Response	Level I First Responder - Awareness Training	HW Handlers HW Technicians Personnel in and Around HW/HW (not including Treatment, Storage, and Disposal Facilities)	Prior to assuming duties	NA	Not Defined	29 CFR 1910.120 (9) and (a)2(4)
	Level II First Responder	Spill Responders	Prior to assuming duties	NA	8 Hours	29 CFR 1910.120 (9) and (a)2(4)
	Level III HM Technicians	Fire Department, First Responder	Prior to assuming duties	NA	24 Hours	29 CFR 1910.120 (9) and (a)2(4) and 29 CFR 1910.120 (9) (6) (iii)
	Level IV HazMat Specialist	Asst. HazMat Technicians	Prior to assuming duties	NA	24 Hours	29 CFR 1910.120 (9) and (a)2(4) and 29 CFR 1910.120 (9) (6) (iv)
	Level V On Scene Incident Commander	Incident Commanders who control a spill/emergency response scene	Prior to assuming duties	NA	24 Hours	29 CFR 1910.120 (9) and (a)2(4) and 29 CFR 1910.120 (9) (6) (8)
Transportation of Dangerous Goods	ADR training on the safe movement of dangerous good	Dangerous Goods Advisor	Prior to assuming duties	Yes - Annually		
	Training (provided by the Dangerous Goods Advisor or external certified agencies) on how to load, unload, or handle the respective dangerous goods.	Personnel who actually handle dangerous goods	Prior to assuming duties	Yes - Annually	NA	C5.3.22.3

APPENDIX 8

HAZARDOUS WASTE MANAGEMENT COMPLIANCE PLAN

A database for listing internal EPAS findings "IPAS TA 5.1" is available at the DPW EMD. This database is updated on a regular basis and whenever changes occur. The database includes deficiencies regarding FGS Chapter 6, Hazardous Waste, proposed corrective actions, and status of corrective actions.